

Appl. No. 10/812,943
Amdt. Dated September 24, 2007
Reply to Office Action of May 31, 2007

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Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1, 2A and 2B. The sheets containing Figures 1, 2A and 2B replace the sheets presently on file containing Figures 1, 2A and 2B. Figures 1, 2A and 2B have been amended to delete reference numeral 25.

Attachment: Replacement Sheets
 Annotated Sheets Showing Changes

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REMARKS/ARGUMENTS

In the Office Action mailed May 31, 2007, the Examiner has objected to the amendment submitted to the specification at paragraph [0037]; to the amended drawings submitted; and to each of the remaining claims, namely Claims 42 to 44.

In this response, Applicant is submitting an amendment to the specification and the drawings, and is submitting reasons below in support of the request that the objection to the claims be withdrawn. Applicant has thus addressed each of the outstanding objections, and respectfully submits that the application is now ready for allowance, based on the following submissions in relation to each of the objections, in the order presented by the Examiner.

In the Specification

In the previous Office Action mailed on October 19, 2006, the Examiner required Applicant to show the cooling chamber, which was a claimed feature of the invention, in the drawings. In complying with this requirement, Applicant submitted replacement drawings in which the cooling chamber was shown and identified by the reference numeral 24. As an inherent component of the chamber, Applicant identified in the drawings and specification the coolant gas intake to the chamber, using reference numeral 25.

Applicant submits that the original wording of paragraph [0037] of the application identified a "cooling chamber (not shown) whereby an inert gas is blown onto the coated fibers ..." Applicant respectfully submits that it is clearly implied that there is an inert gas intake to supply gas to be blown onto the fibers. Further, as the chamber itself does not constitute new matter, its expected physical features should not be regarded as constituting new matter.

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Nevertheless, without making any admission thereby, in the amendment submitted herewith, Applicant has removed the reference to the coolant gas intake from paragraph [0037].

In the Drawings

In the previous Office Action mailed on October 19, 2006, as noted above, the Examiner required Applicant to show the cooling chamber, which was a claimed feature of the invention, in the drawings. Again as noted above, in complying with this requirement, Applicant submitted replacement drawings in which the cooling chamber was shown and identified by the reference numeral 24. As an inherent component of the chamber, Applicant identified in the drawings and specification the coolant gas intake to the chamber, using reference numeral 25.

For the reasons noted above, Applicant respectfully submits that the identification of the intake by reference numeral 25 does not constitute new matter. Nevertheless, without making any admission thereby, Applicant submits herewith amended drawings, in which the reference numeral 25 has been removed from Figures 1, 2A and 2B.

In the Claims

Chronology of rejections

After a species election by Applicant, the Examiner, in an Office Action mailed on May 31, 2007, rejected each of the three claims remaining in the application, namely Claims 42 to 44, for alleged obviousness, the basis for the rejection being that Claims 42 and 44 were obvious over US 4,117,582 to Borelly in view of US 3,366,993 to Lemelson; and that Claim 43 was obvious over those two cited references "as applied to Claim 42 and further in view of US 4,473,936 to Kellner et al.

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Applicant notes that the issue dates of these three patents are respectively October 3, 1978; March 15, 1965; and October 2, 1984.

In the previous Office Action, mailed on October 19, 2006, the Examiner cited a German reference published on June 11, 1987, to the inventor Borelly, DE 3538014A1, entitled "Method for applying a corrosion protection to parallel wire bundles"; the Examiner relied on Figures 6 and 7 and an English translation of the Abstract.

In the response submitted on March 16, 2007, Applicant provided the Examiner with a complete English translation of the reference, which identified the features of the apparatus shown in the drawings, and established that the element alleged by the Examiner to be a spray nozzle for spreading wires and delivering molten polymer to them was in fact a heat gun for heating precoated bundled wires, to effect repairs to an outer coating of the bundle; and that the features of the figures on which the Examiner relied were directed solely to in situ repairs of cables on operative suspension bridges.

In the present Office Action, mailed May 31, 2007, the Examiner has stated that the arguments filed by Applicant on March 16, 2007 "have been considered but are moot in view of the new ground(s) of rejection".

Preliminary issue re previously cited reference

As a preliminary issue, Applicant respectfully submits that having regard to the clarification provided by the English translation of the cited reference DE 3538014A1, and the lack of any stated reason for applying this reference, from an entirely different art field, to the present application, much less any teaching in the reference of the features of the present application, that reference citation should be deemed withdrawn for the

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purposes of this response, and any appeal which may be taken from any further Office Action which may issue after consideration of this response.

New rejections of Claims 42 to 44

Obviousness rejection of Claims 42 and 44 based on US 4,117,582 to Borelly in view of US 3,366,993 to Lemelson;

The Examiner states that Borelly discloses "an apparatus for producing polymer-coated fibers the apparatus comprising a reel means ... for providing movement of a roving of wires (capable of being metal coated fibers); at least one sprayer nozzle (58) for spraying a molten polymer stream upon the roving, capable of spreading each fiber of the roving without making contact with the roving; a heating chamber (bell 45) for housing the sprayer nozzle; and a cooling chamber (see Fig. 15 for the enclosed sections after item 45 till item 56) capable of cooling the fibers; wherein the molten polymer stream ejected from the sprayer nozzle capable of spreading the fibers without removal of metal-coating therefrom, and the molten polymer is cooled on the roving by the cooling chamber to form a contiguous polymer-coated, metal-coated fibers" [sic].

Applicant respectfully submits that this cited reference relates to wire strands and cables for use in wide-span suspension bridges; and in particular for the production of parallel strands, instead of previous stranding techniques such as locked wire strand cables, while at the same time addressing the problems of differences in stress factors affecting large-dimension cables and wires in traditional reeling methods.

Applicant respectfully submits that this reference is from an entirely different art field from the present invention. It is well established that where an Examiner cites a reference from an entirely different art field in support of an obviousness rejection, the Examiner is required to explain why it is considered that the person skilled in the art of the invention would look to that art field, and the cited reference in particular, for teachings which

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could be applicable to the art of the invention; and further, to provide reasoning to support an allegation that those teachings could indeed be so applicable, so as to render the invention obvious therefrom.

In this case, the Examiner has not provided any explanation to support the citation of this reference from the art field of suspension bridge wire construction. Applicant therefore respectfully submits that the citation should be withdrawn as unjustifiably made.

Nevertheless, even if the reference could be considered to be in any manner relevant to the field of the present invention, Applicant respectfully submits that it does not disclose or even suggest the features of the present invention.

The reference discloses that the wires to be treated are pre-spread when rolled onto the reel. This is required to minimize any differences in stress and uneven stretching, to address the problems noted in relation to reeling large wires and cables, discussed in columns 1 and 2 of the reference. It is manifest from the reference itself that contact of the wires is involved in this preliminary stage. When the nozzle sprays the anti-corrosive agent onto the wires, they have already been pre-spread, and are unrolled from the reel to the spraying region in their spread condition. This is manifestly shown in Figure 15, on which the Examiner relies. Figure 1 shows the "fanning out" apparatus, and Figure 3 shows clearly the manner in which the wires arrive leave the apparatus.

In contrast, claim 42 teaches an apparatus comprising "at least one sprayer nozzle including a plurality of orifices for spreading each metal-coated fiber of the roving without making contact with each metal-coated fiber of the roving and spraying a molten polymer stream upon the roving; a heating chamber for housing each of the at least one sprayer nozzle; and a cooling chamber for cooling the molten polymer on the roving".
[emphasis added]

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Applicant respectfully submits that the reference clearly does not teach any manner in which any spraying element located in the spraying region (from bell 45 to item 56 as identified by the Examiner) is capable of spreading the wires, nor any suggestion of such feature. The wires are “fanned out” by rollers 35 and 36, “in the same manner as in the fanning out process ... in connection with the winding of the wire onto the reel drum” (see column 15, lines 17 to 20). “A two-part injecting bell 45 ... encloses an injection nozzle 58 by means of which a liquid is sprayed on the spaced apart wires as they travel through the device” (see column 15, lines 39 to 42). The liquid “serves to firmly bond the wires together as they pass through the molding nozzle 48 in which the wires are compressed” (see column 15, lines 46 to 48). [emphasis added]

Applicant respectfully submits that there are no teachings in the reference of any manner whatever in which the single spray nozzle does, or even could, take any part in the spreading out of the wires; nor any manner in which this is or could be done without direct contact to the wires. The only manner in which the “fanning out” of the reference is performed is by means of runners or rollers 35 and 36, which clearly require contact with the wires, and are physically remote from, and precede in sequence, the single spray nozzle.

Still further, the reference fails to teach any manner of cooling the wires at the time at which any coating is applied to the individual wires. The only cooling taught by the reference is after the wires have been bundled and a metal band has been applied to them, i.e. as a pre-welding step 62, long after passing support 56.

In contrast, as noted above, Claim 42 specifically calls for a cooling chamber for cooling the molten polymer on the roving.

Applicant therefore submits that the primary reference, Borelly, even if it could be considered as being relevant and properly cited, which is not admitted, does not teach any

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of the important features of the invention discussed above, much less would it be capable of leading the person skilled in the art of the invention directly to the features of the invention.

The secondary reference, Lemelson, was cited as indicating that a nozzle can be made with more than one orifice. Again, this reference is from another completely different art field, i.e. spray molding of hollow articles. Applicant respectfully submits that the person skilled in the art of the invention would clearly not consider the Lemelson reference as relevant to the invention, much less that it would be relevant, feasible or useful to combine the spray molding teaching of the reference with the suspension bridge wires and cables teachings of the Borelly reference. Further, having regard to each of the significant features of the present invention which are not remotely suggested in either reference, that person could not be led directly to the invention by any combination of these references.

As a further factor, while age of a reference per se does not preclude it from being relevant prior art, Applicant respectfully submits that old and outdated (having regard to the field) technology should be regarded with caution; particularly where it is being cited in another entirely unrelated field. As noted above, the dates of these two references are respectively 1978 (Borelly) and 1965 (Lemelson). It is further noteworthy that this Borelly reference predates the Borelly reference DE 3538014A1 by nine years.

As the important features of the invention, including those identified above, are not found anywhere in either of the cited references, Applicant therefore respectfully submits that Claims 42 and 44 of the present application cannot be regarded as obvious from the cited references, and that the citation should be withdrawn.

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Obviousness rejection of Claim 43 based on US 4,117,582 to Borelly in view of US 3,366,993 to Lemelson, and in view of US 4,473,936 to Kellner et al.

The Examiner has alleged that Claim 43 is obvious from the two references discussed above in relation to Claims 42 and 44, and further from Kellner et al. in relation to cutting means. Applicant respectfully submits that the first two references, Borelly and Lemelson, do not render Claim 43 obvious, for the reasons discussed above in relation to Claims 42 and 44.

The Examiner has cited the Kellner et al. reference in relation to the provision of a cutting means, which is not taught by Borelly or Lemelson; applicant submits that no person skilled in the art of the present invention would consider combining the Kellner et al. reference with the other two references. For that reason alone, and based on the principles discussed above in relation to Claims 42 and 44, Applicant submits that the citation should be withdrawn.

Applicant submits that in any event, clearly one would not expect the teaching of cutting means for cutting a workpiece into segments in a patent directed to treating a plurality of wires to be combined into a parallel strand wire for the main support of a wide-span suspension bridge.

Applicant therefore respectfully submits that Claim 43 of the present application cannot be regarded as obvious from the cited references, and that the citation should be withdrawn.

Conclusion

A request for a one month extension of time is enclosed herewith.

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Should any further fees or payments be necessary for entry of this amendment and further prosecution of this application, the undersigned hereby authorizes the Commissioner to debit and/or credit our Deposit Account No. 16-0600.

However, in the event that the Examiner requires any further clarification of any of the submissions contained herein, Applicant respectfully requests that the Examiner contact its attorney of record as identified below to discuss the same.

Respectfully Submitted,
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